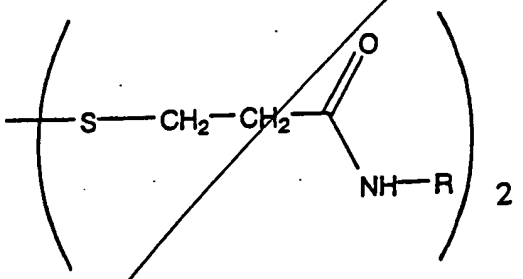
Dont A1

or alternatively, the compound represented by formula (II).



is reacted with a chlorinating agent in a solvent in which hydrogen chloride is insoluble or has low solubility,

wherein the molar-equivalent ratio of said chlorinating agent to the compound of formula (I) is 3:1, or alternatively,

wherein the molar-equivalent ratio of said chlorinating agent to said the compound of formula (II) is 2:1; and

wherein R in the compounds of formulas (I), (II), and (III) represents C1 to C8 alkyl groups or aralkyl groups.

A2 4. (Amended) The method of producing 2-alkyl-4-isothiazoline-3-one stated in Claim 3 in which aforementioned solvent is selected from at least one of the following: Dichloromethane, dichloroethane, trichloroethane, tetrachloroethane, chloroform, carbon tetrachloride, monochlorobenzene, dichlorobenzene, pentane, hexane, cyclohexane, heptane, and octane.

A3 8. (Amended) The method of producing 2-alkyl-4-isothiazoline-3-one stated in Claims 7 in which aforementioned solvent is selected from at least one of the following: Dichloromethane, dichloroethane, trichloroethane, tetrachloroethane, chloroform, carbon tetrachloride, monochlorobenzene, dichlorobenzene, pentane, hexane, cyclohexane, heptane, and octane.

A4 12. (Amended) The method of producing 2-alkyl-4-isothiazoline-3-one stated in Claim 11 in which aforementioned solvent is selected from at least one of the following: Dichloromethane, dichloroethane, trichloroethane, tetrachloroethane, chloroform, carbon